ARMY REGULATION 71-9, MATERIEL REQUIREMENTS, 30 APRIL 1997

Proponent

The proponent for this document is the U.S. Army Deputy Chief of Staff for Operations.

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Definition

Combat Developer (CBTDEV) - Command or agency that formulates and documents operational concepts, doctrine, organizations, and materiel requirements (MNS and ORDs) for assigned mission areas and functions. Serves as the user representative during acquisitions for their approved materiel requirements as well as doctrine and organization developments.

Future Operational Capabilities (FOCs) - FOCs are statements of operational capabilities (needs) required for the Army to achieve the vision articulated in TRADOC Pam 525-5, Force XXI Operations and for the Army Medical Department (AMEDD), TRADOC Pam 525-50, Operational Concept for Combat Health Support. FOCs address specific warfighting operational capabilities (not functions or operations) described in TRADOC approved concepts. They describe those capabilities in operational terms, what must be done; not how to do it. The FOCs provide a stand-alone description of the capability. FOCs are enduring; they apply to tomorrow's Army, but may be equally relevant to today's or yesterday's Army. FOCs do not describe a deficiency or shortcoming. They do not provide or identify a system specification, specific technology, organization or time frame and they do not encompass an entire branch or functional concept. FOCs do not use relational or comparative words or phrases.

Horizontal Technology Integration (HTI) - The application of common technology solutions across multiple systems to improve the warfighting capability of the total force. It represents the holistic process of developing, integrating, and fielding of common or multi-use technologies, hardware and software into different types of weapon and information systems that fight together as units or task forces.

MANPRINT - The comprehensive technical effort to identify and integrate all relevant information and considerations regarding the full range of manpower, personnel, capabilities, capabilities, training development and delivery, human factors engineering, system safety, health hazards, and soldier survivability into the system development and acquisition process to improve soldier performance, total systems performance, and reduce the cost of ownership to an acceptable level throughout the entire life cycle of a system. MANPRINT is the Army's Human Systems Integration process for systems integration.

Materiel Developer (MATDEV) - The Research, Development, and Acquisition command, agency, or office assigned responsibility for the system under development or being acquired. The term may be used generically to refer to the RDA community in the materiel acquisition process.

Training Developer (TNGDEV) - Command or agency that formulates, develops, and documents or produces training concepts, strategies, requirements (materiel or other), and programs for assigned mission areas and functions. Serves as user (trainer and trainee) representative during

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acquisitions of their approved training materiel requirements (MNS and ORDs) and training program developments.

Training Development - The conception, development, and execution of solutions to training requirements identified through the combat development process. The solutions may include new or revised training programs, material, methods, media, and system and non-system training devices.

Warfighting Requirements - Requirements for Acquisition Categories (ACAT) I-IV weapons and materiel systems, automated information systems, IT programs, special access program, and clothing and individual equipment in direct use by or support of the Army warfighter in training for and conducting of operational missions (tactical or other), or connecting that warfighter to the sustaining base.

Warfighting Rapid Acquisition Program (WRAP) - This program is directed at accelerating procurement of systems identified through TRADOC warfighting experiments as compelling successes that satisfy an urgent need. It is implemented within existing Army structure. WRAP is compatible with and supports Federal Acquisition Regulation (FAR) and DoD and Army acquisition policy. (DoD 5000 series and AR 70 series). WRAP applies to Advanced Warfighting Experiments (AWEs), Concept Evaluation Programs (CEPs), Advanced Technology Demonstrations (ATDs), Advanced Concept Technology Demonstrations (ACTDs), and similar experiments where TRADOC ICT supported by a TRADOC Battle lab are directly involved. Approved programs may be funded as prototype for 2 years. Immediate funding is not guaranteed. Continued actions will be needed to fully document system, obtain "standard" type classification, and full logistics support.

Synopsis

This regulation is a revision of the 1987 AR 71-9. It covers policies and procedures for warfighting materiel requirements. This revision:

- describes the Army's new way of determining warfighting materiel requirements;
- implements DoD Directive 5000.1 and DoD Regulation 5000.2R;
- assigns responsibilities for the combat development portion of the materiel acquisition management process;
- mandates the use of the formats prescribed by the Chairman of the Joint Chiefs of Staff Instruction 3170.1 (memorandum of policy 77) in the preparation of materiel requirements documents;
- provides the policy for streamlining requirements through horizontal technology integration and the Warfighting Rapid Acquisition Program; and
- updates policies for preparing requirements documents and conducting supporting analyses.

The following policy guidance describes the necessary procedures for materiel requirements:

Department of Defense (DoD) Directive (DoDD) 5000.1 and DoD Regulation 5000.2R provide mandatory DoD acquisition policy and procedures including requirements documentation and approval guidance for major defense acquisition programs (MDAP) for both materiel and automated information systems. Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 3170.01 (Memorandum of Policy (MOP) 77 - Requirements Generation System) mandates policy and procedural guidance for the requirements generation system to include guidance on key performance parameters (KPPs), measures of effectiveness, and the Joint Requirements Oversight Council (JROC). AR 70-1 provides Army acquisition guidance for materiel and information systems. This regulation provides Army requirements determination and documentation policies and responsibilities supporting all Army acquisitions categories (ACAT) I/IA through IV materiel and information systems. The

terms materiel and materiel system in this regulation will apply to materiel and information systems unless specifically identified otherwise. Governing policies follow:

- The requirements determination process will provide a current and future Army capable of success in any contingency from humanitarian assistance to full tactical operations in joint and combined environments. The process will be responsive to the urgent materiel requirements of the deployed warfighter as well as project the full set of doctrine, training, leader development, organizational design, materiel, and soldiers (DTLOMS) requirements for the Army to be mission capable in near-, mid- and far-term operations.
  - ⇒ Field Commanders document and submit their urgent warfighting and training operational requirements and obtain support via the operational needs statements (ONS) process in chapter 3.
  - ⇒ Commanders with combat development missions conduct continuing analyses to identify and define near through far term DTLOMS requirements.
  - ⇒ Near term requirements occur when a field commander's ONS represents a broad Army mission urgent requirement with solution, a solution is found for a previously identified continuing urgent operational capability, or technology provides previously unforeseen critical leap-ahead operational capability.
  - ⇒ Near-, mid-, and far-term (that is, future) operational requirements will be operations concepts based, holistic operations oriented, and capabilities focused.
- Future operational requirements for all DTLOMS domains will be related to the U.S. Army Training and Doctrine Command (TRADOC) approved overarching operational concept and associated lower level operational concepts. Requirements not related to these concepts will not be resourced. TRADOC integrated and approved listing of future operational capabilities (FOCs) [see TRADOC PAM 525-66, Future Operational Capability] from these concepts serve as a control mechanism for requirements determination process, and authority for supporting studies and experimentation, and a device for linkage between requirements documentation and the concepts.
- Requirements determination is the work of integrated concept teams (ICTs) made up of people from multiple disciplines. These teams' efforts may include concept development or development materiel operational requirements development and documentation. DTLOMS solution sets will be documented in ICT minutes or reports. ICTs will operate on principals similar to acquisition integrated product teams (IPTs) in DoD 5000.2R to identify and resolve issues early. An ICT will include representatives of Army requirements process stakeholders and other principal contributors, including academia and industry, when appropriate. The Office of the Secretary of Defense (OSD), other services, commanders in chief (CINCs), and Joint Staff, will be invited to send representatives, as appropriate, when their interest is known or suspected.
- A materiel requirement will only be developed for an approved FOC after all other possible doctrine, training, leader development, or organizational solutions are deemed unable to solve the FOC. The priority order of consideration is doctrine, training, leader development, organizational design, and finally materiel. Mission need statements (MNSs) will be prepared in accordance with MOP 77 format guidelines for those materiel operational requirements with ACAT I or IA program potential and other programs representing a new Army mission or a potential program using a significant leap-ahead technology. Operational requirements documents (ORDs) will be prepared in accordance with DoD 5000.2R format guidance for all warfighting materiel operational requirements.
- All ACAT I, IA, II, III, and IIIA materiel programs will have an ORD. All ACAT IV materiel programs for modification table of organization and equipment (MTOE), deployable tables of distribution and allowances (TDA), warfighter training, operations planning and re-

hearsal, and information technology (IT) providing interface to deployed units, will have ORDs. Most ACAT IV base operations materiel are not warfighting requirements, will not have ORDs, and can be procured following major Army command (MACOM) standard acquisition procedures. TRADOC will provide tailoring guidelines for MNS and ORDs implementing MOP 77 and DoD 5000.2R.

- All IT products must comply with the Army's operations, systems, and technical architectures. MACOM information management offices will review and ensure compliance with architectures.
- A holistic threat analysis depicting the global situation and projected warfighting capabilities of potential adversaries is a key element of the requirements determination process. The cold war concept of limiting the definition of threat to merely opposing enemy forces on the ground is no longer relevant. The increasing number of Army roles, along with the number of potential regions in which the Army could perform these roles, are critical considerations in any threat analysis performed by combat developers (CBTDEVs).
- Standardization will be one of the key focuses of CBTDEVs/training developers (TNGDEVs) throughout the requirements determination and acquisition management process. Properly applied, standardization can significantly reduce life-cycle costs, schedules, and risks, while improving quality and logistic support.
- Close coordination will be maintained between CBTDEVs/TNGDEVs and the science and technology (S&T) community to ensure that technology investments are appropriately focusing on identified FOCs. Periodic reviews will be conducted with program offices, laboratories, users, and maintainers to assess the technical status, emerging performance, affordability, and remaining technology shortfalls. Modeling and simulation will be used to preclude unnecessary and impractical development.
- All system developments have many capability characteristics that are defined in requirements documentation. Key performance parameters (KPPs) are those system characteristics that define whether or not a system will be capable of mission accomplishment. KPPs are, by definition, characteristics that can cause a concept or system to be reevaluated and a program to be reassessed for restructuring or termination. All requirements documentation will contain KPPs, which will in turn be documented in the system acquisition program baseline (APB). For ACAT I systems, KPPs are validated and approved by the JROC even if the authority for the requirements document has been delegated to the component. TRADOC validates and approves other KPPs.
- When developing system characteristics and performance parameters, cost must be considered on an equal level. In other words, cost will be treated as an independent variable along with others used to define a system. This concept--cost as an independent variable (CAIV)--will not preclude consideration and evaluation of a new, expensive, high potential, leap-ahead DTLOMS technology.

What Does This Mean for Military Public Health?

To adequately address preventive medicine now and in the future we must:

- understand the basic principles of materiel requirements and development. Additionally, we need to be aware of the materiel initiatives that require full preventive medicine involvement as well as the materiel initiatives that require preventive medicine support. If the Preventive Medicine community does not address preventive medicine materiel deficiencies, no one else will;
- be aware of the Future Operational Capabilities (FOCs) that are relevant to preventive medicine and how we can assist in achieving these capabilities; and

- ensure that soldier considerations are emphasized and maintained as a high priority in system design; and that system operation, deployment/employment, and maintenance requirements are matched with soldier capabilities, training, and availability. With MANPRINT, Army systems will become increasingly user-centered, reliable, and maintainable, leading to significant reductions in life-cycle costs and increased mission effectiveness.

The following themes are common to other planning documents on our list:

- preventive medicine is a comprehensive program to protect the health and environment of military personnel. We have unique expertise at the USACHPPM in our matrixed teams of scientific and engineering disciplines;
- work closely with the research, development, and acquisition communities. We must assist the Army Medical Department (AMEDD) Center and School and other service schools in developing innovative state-of-the-art solutions to address lessons learned and doctrine, training, leader development, organization, materiel, and soldiers (DTLOMS) deficiencies to meet the challenges of Joint Vision 2010;
- look at all our products and services to determine if they promote and maintain a healthy and fit Force. We must create a common culture throughout the DoD that values health and fitness;
- optimize the use of technology to obtain, evaluate, and disseminate preventive medicine information; and
- demonstrate the effectiveness of environmental health, occupational health and health promotion in minimizing risk and optimizing readiness, fitness, and health.

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